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10/588,399

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EXAMINER

CHANG, JON CARLTON

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/588,399	<b>Applicant(s)</b> BERTOLA ET AL.	
	<b>Examiner</b> JON CHANG	<b>Art Unit</b> 2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Applicant's Amendment and Arguments***

1. The amendment filed February 22, 2011, has been entered and made of record.
2. The objection to claims 3-9 has been in improper form under 37 CFR 1.75(c) is withdrawn in response to the amendment to the claims.
3. The amendment to the specification to comply with 37 CFR 1.77(b) is acknowledged.
4. Please note the new rejection under 35 U.S.C. 112 2<sup>nd</sup> paragraph, necessitated by the amendment.
5. Applicant's arguments directed against Langer with regard to claim 1 have been fully considered, but are not persuasive. Applicant makes the following arguments:
  - a) Langer's invention is not suitable for acquiring information about the color surface of the object, and is not capable of acquiring data about the color of the surface;
  - b) Langer's system teaches away from a system adapted to reproduce color point by point;
  - c) Langer's invention is not suitable to use data about the color surface of the scanned object.
6. These arguments are not convincing. Regarding a) above, claim 1 does not require acquiring information about the color of the surface of the object. Color is only recited with respect to printing. As pointed out by the previous office action, painting (as disclosed by Langer) is equivalent to color printing, as any painting will inherently have

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some sort of color associated with it. Thus, color printing is at least rendered obvious over Langer's disclosure.

7. Regarding b), claim 1 does not require reproducing color point by point, and therefore it is irrelevant as to whether Langer discloses this or not.

8. Regarding c), claim 1 does not use data about the color surface of the scanned object. The claim does not even recite that the scanned object has a color surface.

9. In view of the above, the rejection under 35 U.S.C. 102 is deemed proper and will be maintained.

### ***Claim Objections***

10. Claim 1 is objected to because of the following informalities: in claim 1, at line 20, "a CAD 3D systems" is grammatically incorrect. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 2-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Regarding claim 3, line 7, utilizes the term "i.e.". However, it is not clear whether what follows this term is actually a restatement or explanation of what precedes

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it, and whether what follows it is actually intended to be part of the claimed invention.

See also claims 5 (line 14).

b) Regarding claim 3, line 17, "high speed" is a subjective determination for which no reference is provided by which one could determine whether a speed is high or not.

c) Regarding claim 4, lines 6 and 14, "photogrammes" is not understood.

d) Regarding claim 6, line 5, "external surface of a virtual object ordered by..." is not clear. It is not understood what it means to "order" an external surface of a virtual object.

e) Regarding claim 6, lines 15-16, it is not clear what it means for the hardware to assure the decomposition of the matrix. In other words, it is not clear what it means for hardware to "assure" something. See also claim 9, line 10, which recites that "logic" assures something.

f) Regarding claim 6, lines 11 and 20, "the sheet-type support" and "the roll-type support" lack antecedent basis.

g) Regarding claim 7, line 14, it is not clear as to what is meant by a colour-printing system being "dedicated" to a support.

h) Regarding claim 7, line 18, "adhesivation" is not understood.

i) Regarding claim 7, line 21, "in common use" is vague.

j) Regarding claim 8, lines 21, 22, 27-28, "supports processed as indicated above" is vague and ambiguous. It is not clear where it states that the supports are processed or how they are processed.

k) Regarding claim 8, line 27, "jointing" is not understood.

l) Regarding claim 8, line 30, "making it possible to manage..." is indefinite in that it appears to be claiming an optional step, only indicating a possible functionality.

m) Regarding claim 9, the following language is not clear:

i) "...are dedicated and specific in accordance with the typology of the employed material" (lines 7-8)

ii) "in which each matrices 3Dr and 3Drr have associated with it the coloration of the desired object that reproduces the chromaticity with reproduction of the digital photography type of the object in accordance with the image acquired or defined by the user by means of information transferred from a CAD 3D system" (lines 17-20)

n) The above address some of the known issues, but are not exhaustive. The claims should be reviewed carefully for compliance with 35 U.S.C. 112 2<sup>nd</sup> paragraph.

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,460,758 to Langer (hereinafter referred to as "Langer").

16. As to claim 1, Langer discloses an electronic photo-optical system for surveying, digitalizing and reproducing the external surface of a three-dimensional object, virtually or in plastic, composite or papery material, comprising an integrated module for calculating and managing informatics data (Fig.1, element 13), a scanner module (Fig.1, elements 1-12) and a reproduction module (Fig.1, element 14), characterized in that said integrated calculation module (VT-Data <sup>II</sup>) describes the mathematical logic utilized in the hardware in the scanner module (VT-MS <sup>II</sup>) (column 2, lines 60-61; column 3, lines 29-31) and the reproduction module (VT-MF <sup>II</sup>) and carries out the operations of:

i) surveying, by means of a digital photo camera or a digital image survey and acquisition system, an image sequence of the object to be acquired associated with a consecutive and synchronized sequential projection, positioned and moved in predetermined steps (column 2, lines 10-21; column 2, lines 35-40);

ii) processing the information acquired as in i) above and reproducing the mathematics that describe the geometry of the external surface of the acquired object taken as model, generating the space coordinates of said object in accordance with a Cartesian reference system with three axes (x,y,z) as logic of the integrated calculation

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model (VT-Data <sup>11</sup>) (column 2, lines 41-51; Cartesian reference system is inherent);

iii) transferring the mathematical data acquired as in i) and ii) above to a PC for a virtual reproduction of the acquired object; rendering it available by means of specific software to CAD 3D systems in order to be able to carry out modification interventions (column 2, lines 41-51; column 3, lines 39-48);

iv) transferring to a remote station (i.e., the elements 1-12 ) the mathematical data acquired as in i), ii) and iii) above in order to reproduce there by means of reproduction module (VT-MF <sup>11</sup>) a copy in plastic, composite or papery material (a plastic or polymer resin (column 1, lines 13-15, 51-52) of the external surface of the object acquired by the scanner module (VT-MS <sup>11</sup>) or the external surface of a PC-generated virtual object transferred by means of specific software from a CAD 3D file, in accordance with the logic indicated by the integrated calculation module (VT-Data <sup>11</sup>) (column 1, lines 32-41; column 3, lines 39-58);

v) colour printing the external surface of the object to be reproduced in plastic, composite or papery material, in accordance with the logic indicated by the integrated calculation module (VT-Data <sup>11</sup>) (column 3, lines 13-15; painting is considered equivalent to color printing, or at least renders it obvious since paint generally has some sort of color).

17. Langer does not disclose, with regarding to the surveying step, a linear light beam projected parallel to the plane (x,y) on which the object is placed and striking the surface of the object to be surveyed. However, the Examiner takes Official Notice that surveying with a linear light beam projected parallel to the x,y plane is well known in the



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art. It would have been obvious to one of ordinary skill in the art to utilize this technique because Langer states "any other measuring method allowing the determination of the contour and surface data of the object is suitable for measuring the object".

18. Regarding the transferring step and the color printing step, Langer does not disclose the 3Dr, 3Drvt and 3Dc-type data files. The Examiner takes Official Notice that these types of data files are well known. It would have been obvious to one of ordinary skill in the art to utilize these types of data files in order to conform to conventional practice.

### ***Allowable Subject Matter***

19. Claims 2-9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JON CHANG whose telephone number is (571)272-7417. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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